



# NOVEMBER 2010

## LOCAL CLIMATOLOGICAL DATA

### NOAA, National Climatic Data Center

**RICHMOND, VA**  
**RICHMOND INTERNATIONAL AIRPORT (KRIC)**  
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 163 Feet  
 Time Zone : EASTERN WBAN: 13740 ISSN#: 0198-537X



Date	Temperature °F						Deg Days BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM					
																			3-SEC		2-MIN			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
01	59	38	49	-4	33	41	16	0		0		0.0	0.00	30.11	30.34	5.3	02	5.8	18	04	15	03	01	
02	55	34	45	-8	34	39	20	0		0		0.0	0.00	30.23	30.42	4.5	05	4.9	17	05	14	04	02	
03	56	43	50	-2	43	47	15	0	RA	0		0.0	0.04	29.96	30.12	1.7	10	2.7	14	09	8	14	03	
04	52	48	50	-2	48	49	15	0	RA BR	0		0.0	0.80	29.44	29.60	7.1	36	7.5	18	01	15	36	04	
05	59	44	52	0	39	45	13	0	RA	0		0.0	0.01	29.47	29.71	5.1	31	6.8	23	02	17	02	05	
06	55	39	47	-5	33	40	18	0	RA	0		0.0	0.01	29.93	30.17	9.4	02	9.7	22	01	17	02	06	
07	54	33	44	-7	30	37	21	0		0		0.0	0.00	30.12	30.30	7.3	36	7.6	25	01	20	33	07	
08	65	31	48	-3	31	41	17	0		0		0.0	0.00	29.77	29.93	4.8	31	6.1	23	31	18	31	08	
09	66	43	55	4	36	45	10	0		0		0.0	0.00	29.73	29.95	7.0	36	7.3	26	01	21	01	09	
10	64	41	53	2	43	47	12	0		0		0.0	0.00	29.90	30.11	5.3	01	5.7	18	36	14	36	10	
11	61	38	50	0	35	42	15	0		0		0.0	0.00	30.13	30.35	6.0	03	6.5	22	04	15	04	11	
12	64	33	49	-1	27	39	16	0		0		0.0	0.00	30.19	30.37	6.0	02	6.2	18	03	14	03	12	
13	67	35	51	1	29	40	14	0		0		0.0	0.00	30.03	30.20	3.6	02	4.0	15	04	12	35	13	
14	66	35	51	2	36	43	14	0		0		0.0	0.00	29.88	30.07	2.2	17	2.7	13	19	9	18	14	
15	62	38	50	1	43	47	15	0	RA	0		0.0	0.02	29.81	30.00	0.5	12	1.3			10	19	15	
16	68	50	59	10	55	57	6	0	RA BR	0		0.0	0.11	29.68	29.84	6.5	16	8.0	36	16	25	22	16	
17	65	42	54	5	41	50	11	0	RA	0		0.0	0.08	29.64	29.88	10.2	27	12.2	43*	23	31*	23	17	
18	59	35	47	-2	34	42	18	0		0		0.0	0.00	29.96	30.17	2.6	31	3.6	17	29	13	26	18	
19	56	33	45	-4	30	38	20	0		0		0.0	0.00	30.09	30.30	1.5	35	3.2	20	04	14	34	19	
20	67	38	53	5	39	45	12	0		0		0.0	0.00	30.06	30.26	5.1	25	5.8	17	28	15	26	20	
21	64	40	52	5	44	47	13	0	FG BR	0		0.0	0.00	30.19	30.39	2.7	08	4.3	10	14	9	08	21	
22	72	41	57	10	47	50	8	0	FG+ FG BR HZ	0		0.0	0.00	30.12	30.30	5.7	21	5.9	23	24	20	24	22	
23	74*	52	63*	16	52	57	2	0	RA	0		0.0	T	29.85	30.04	9.7	25	11.1	29	29	20	25	23	
24	59	42	51	4	27	39	14	0		0		0.0	0.00	30.02	30.23	6.7	02	7.5	24	01	18	01	24	
25	56	39	48	2	38	44	17	0	BR	0		0.0	0.00	29.94	30.09	4.3	20	5.0	16	21	12	23	25	
26	64	48	56	10	46	52	9	0	RA DZ BR	0		0.0	0.20	29.55	29.75	8.9	27	10.5	28	23	21	23	26	
27	52	33	43	-3	20	34	22	0		0		0.0	0.00	29.74	29.98	7.2	31	8.8	22	33	16	31	27	
28	50	26*	38*	-7	24	32	27	0		0		0.0	0.00	30.16	30.38	2.2	02	2.6	24	30	14	03	28	
29	54	27	41	-4	33	38	24	0		0		0.0	0.00	30.27	30.47	1.6	13	2.1	20	32	12	13	29	
30	67	46	57	12	53	56	8	0	RA	0		0.0	T	30.02	30.16	10.8	17	10.9	29	16	22	17	30	

61.1	38.8	50.0	☼	37.4	44.1	14.7	0.0	< MONTHLY AVERAGES   TOTALS >				0.0	1.27	29.93	30.13	1.7	33	6.2	< MONTHLY AVERAGES			
1.4	0.4	1.0		-----DEPARTURE FROM NORMAL -----								-1.79	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									
<b>DEGREE DAYS</b>								GREATEST 24-HR PRECIPITATION : 0.84 DATE : 03-04				SEA LEVEL PRESSURE				DATE TIME						
MONTHLY				SEASON TO DATE				GREATEST 24-HR SNOWFALL : 0.0 DATE :				MAXIMUM : 30.55 29 0854										
TOTAL DEPARTURE				TOTAL DEPARTURE				GREATEST SNOW DEPTH : 0 DATE :				MINIMUM : 29.51 04 1554										
HEATING :		442 -28		601 -122				NUMBER OF ->		MAXIMUM TEMP >= 90 : 0		MINIMUM TEMP <= 32 : 3		PRECIPITATION >= 0.01 INCH: 8								
COOLING :		0 -6		2145 711				THUNDERSTORMS : 0		MAXIMUM TEMP <= 32 : 0		MINIMUM TEMP <= 0 : 0		PRECIPITATION >= 0.10 INCH: 3								
										HEAVY FOG : 1				SNOWFALL >= 1.0 INCH : 0								

**NOVEMBER 2010**  
**RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
NOVEMBER 2010

WBAN # 13740

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			
01													01												01	0.00	0.00	
02													02												02	0.00	0.00	
03													03												03	0.04	0.04	
04	0.02	0.02	0.05	0.05	0.10	0.08	0.07	0.05	0.01	0.01	0.03	0.01	04	0.14	0.11	0.03	0.02							T	0.04	0.80		
05	T	T	T	0.01	T	T	T						05							T	T	T			T	0.01	0.01	
06					T	0.01							06												06	0.01	0.01	
07													07												07	0.00	0.00	
08													08												08	0.00	0.00	
09													09												09	0.00	0.00	
10													10												10	0.00	0.00	
11													11												11	0.00	0.00	
12													12												12	0.00	0.00	
13													13												13	0.00	0.00	
14													14												14	0.00	0.00	
15													15			T	T			0.02	T	T		15	0.02	0.02		
16						0.05							16		T	0.02	0.03	T	0.01	T				16	0.11	0.11		
17	0.01	0.07	T										17											17	0.08	0.08		
18													18											18	0.00	0.00		
19													19											19	0.00	0.00		
20													20											20	0.00	0.00		
21													21											21	0.00	0.00		
22													22											22	0.00	0.00		
23													23							T				23	T	T		
24													24											24	0.00	0.00		
25													25											25	0.00	0.00		
26	T					0.16	0.04			T	T	T	26											26	0.20	0.20		
27													27											27	0.00	0.00		
28													28											28	0.00	0.00		
29													29											29	0.00	0.00		
30													30											30	T	T		

\* Indicates sum of Hourly and Daily disagree.

## MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	0.05	0.08	0.10	0.13	0.16	0.18	0.19	0.23	0.25	0.26	0.27	0.29
Ending Date	26	26	26	26	26	26	26	04	04	04	04	04
Ending Time (Hr/Min)	0551	0556	0558	0556	0602	0618	0627	1328	1352	1411	1419	1501

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

Date and time are not entered for TRACE amounts.

# REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

\* = Extreme for the month (last occurrence if more than one).

T = Trace precipitation amount.

+ = also occurs on earlier date.

FG+ = Heavy fog, visibility .25 miles or less.

BLANK entries denote missing or unreported data.

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1971-2000

## WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
DESCRIPTOR	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	GL Glaze
VC In the Vicinity	UP Unkown Precipitation		

Intensity (as indicated on pages 4 to 6):  
'+' = Heavy    '' = Moderate    '-' = Light

# RICHMOND, VA NOVEMBER 2010

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR-SS), or midnight to midnight (MN-MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0-2 oktas, Partly Cloudy = 3-6 oktas, Cloudy = 7-8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

### ADDITIONAL NOTES:

Station Augmentation-SANDSTON COOP  
Lat/Lon:37.54417/-77.27583 Elevation:165  
Distance:4 MI Dir:E  
Augmented Elements:Temp, Precip, Snow  
Equipment:MMTS, SRG, Snowboard

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							10.00	10.00	
02							10.00	10.00	
03							7.00	10.00	
04							1.75	10.00	
05							10.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							10.00	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							6.00	10.00	
16							2.50	10.00	
17							9.00	10.00	
18							10.00	10.00	
19							9.00	10.00	
20							10.00	10.00	
21							0.50	10.00	
22							0.00	10.00	
23							10.00	10.00	
24							10.00	10.00	
25							6.00	10.00	
26							2.50	10.00	
27							10.00	10.00	
28							10.00	10.00	
29							9.00	10.00	
30							10.00	10.00	
MONTHLY AVGS							8.11	10.00	
<b>SUNSHINE (Minutes)</b>									
Total : 0					Possible : 18302				
Percent Possible : 0									
<b>NUMBER OF DAYS WITH : SKY CONDITION</b>									
Clear		Partly CLDY			Cloudy			Missing	
<b>MINIMUM VISIBILITY (MILES)</b>									
<= .25			<= 3.0			>= 7.0			
1			5			23			

# OBSERVATIONS AT 3-HOURLY INTERVALS

## RICHMOND, VA

### NOVEMBER 2010

### KRIC

### WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND SPEED (MPH) DIRECTION Tens of Deg	PRESSURE (INCHES, HG)					
			Observation Time (LST)	Eff Cld Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	RELATIVE HUMIDITY (PCT)				STATION	SEA LEVEL		Observation Time (LST)	Eff Cld Amt Oktas	VISIBILITY (MILES)		DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	STATION	SEA LEVEL
01	CLR	NC				46	34	41	63	6	02	30.01	30.20	01	CLR	NC				38	30	35	73	8	34	30.15	30.34
04	CLR	NC				42	34	39	73	8	03	30.06	30.25	04	CLR	NC				35	30	33	82	8	35	30.17	30.36
07	FEW	150				41	33	38	73	8	01	30.14	30.33	07	CLR	NC				34	30	32	85	9	01	30.21	30.40
10	SCT	250				52	33	44	49	10	03	30.17	30.36	10	SCT	150				46	32	40	58	17	36	30.22	30.41
13	SCT	250				57	32	46	39	7	35	30.13	30.32	13	SCT	250				53	27	42	37	15	01	30.11	30.30
16	BKN	250				55	31	44	40	8	03	30.13	30.32	16	FEW	250				51	26	41	38	14	34	30.05	30.24
19	BKN	250				46	34	41	63	6	06	30.19	30.38	19	FEW	250				42	31	37	65	3	36	30.03	30.23
22	FEW	250				40	35	38	82	0	00	30.23	30.42	22	CLR	NC				36	31	34	82	0	00	29.99	30.19
SUNRISE: 0634						NOV 01						SUNRISE: 0640						NOV 07									
SUNRISE: 0635						NOV 02						SUNRISE: 0641						NOV 08									
SUNRISE: 0636						NOV 03						SUNRISE: 0642						NOV 09									
SUNRISE: 0637						NOV 04						SUNRISE: 0643						NOV 10									
SUNRISE: 0638						NOV 05						SUNRISE: 0644						NOV 11									
SUNRISE: 0639						NOV 06						SUNRISE: 0646						NOV 12									
01	CLR	NC				45	39	42	80	10	36	29.78	29.97	01	CLR	NC				38	31	35	76	6	02	30.22	30.41
04	CLR	NC				44	35	40	71	9	02	29.84	30.03	04	CLR	NC				35	30	33	82	6	36	30.20	30.40
07	SCT	100				40	34	37	79	8	01	29.91	30.10	07	CLR	NC				34	28	32	79	6	02	30.22	30.42
10	BKN	250				48	33	41	56	15	02	29.98	30.18	10	CLR	NC				52	28	42	40	9	04	30.24	30.43
13	BKN	250				53	32	44	45	14	01	29.96	30.16	13	CLR	NC				61	24	45	24	8	04	30.18	30.37
16	BKN	090				51	32	43	48	7	01	30.00	30.20	16	FEW	250				63	19	45	18	8	03	30.14	30.33
19	FEW	100				43	33	39	68	7	01	30.09	30.28	19	FEW	250				48	28	40	46	3	01	30.14	30.34
22	CLR	NC				41	30	37	65	10	01	30.14	30.34	22	CLR	NC				43	29	37	58	3	01	30.14	30.33

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA NOVEMBER 2010

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)													
			Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL				Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL												
<b>SUNRISE: 0647</b>							<b>NOV 13</b>							<b>SUNSET: 1700</b>							<b>SUNRISE: 0653</b>							<b>NOV 19</b>							<b>SUNSET: 1656</b>						
01	CLR	NC			10.00		39	28	35	65	3	36	30.10	30.29	01	FEW	060			10.00		41	33	38	73	0	00	30.04	30.23												
04	CLR	NC			10.00		39	27	34	62	0	00	30.08	30.27	04	CLR	NC			10.00		36	33	35	89	0	00	30.08	30.28												
07	CLR	NC			10.00		35	28	32	76	3	35	30.07	30.27	07	FEW	150			10.00		35	31	33	85	0	00	30.13	30.32												
10	FEW	250			10.00		55	26	43	33	7	04	30.05	30.24	10	FEW	150			10.00		50	27	41	41	11	02	30.18	30.37												
13	FEW	250			10.00		65	22	47	19	8	02	29.98	30.17	13	CLR	NC			10.00		55	25	43	31	8	32	30.11	30.31												
16	FEW	250			10.00		64	30	48	28	8	06	29.94	30.13	16	BKN	250			10.00		54	26	42	34	0	00	30.10	30.29												
19	BKN	250			10.00		48	35	42	61	0	00	29.95	30.15	19	BKN	250			10.00		42	33	38	71	0	00	30.10	30.30												
22	SCT	250			10.00		44	36	41	74	0	00	29.95	30.14	22	FEW	250			10.00		39	31	36	73	0	00	30.11	30.31												
<b>SUNRISE: 0648</b>							<b>NOV 14</b>							<b>SUNSET: 1660</b>							<b>SUNRISE: 0654</b>							<b>NOV 20</b>							<b>SUNSET: 1656</b>						
01	FEW	250			10.00		38	35	37	89	0	00	29.94	30.13	01	CLR	NC			10.00		38	33	36	82	6	20	30.10	30.30												
04	FEW	250			10.00		35	33	34	92	0	00	29.90	30.10	04	CLR	NC			10.00		39	35	37	86	6	22	30.06	30.26												
07	BKN	250			10.00		36	33	35	89	0	00	29.92	30.11	07	FEW	250			10.00		43	38	41	83	10	24	30.05	30.24												
10	SCT	250			10.00		55	37	47	51	0	00	29.94	30.13	10	FEW	250			10.00		56	40	48	55	9	28	30.07	30.27												
13	FEW	250			10.00		63	29	48	28	6	20	29.87	30.06	13	FEW	250			10.00		65	40	52	40	9	26	30.02	30.22												
16	FEW	250			10.00		64	32	49	30	6	17	29.82	30.01	16	FEW	250			10.00		65	40	52	40	9	26	30.03	30.22												
19	FEW	150			10.00		49	37	44	63	5	16	29.83	30.03	19	CLR	NC			10.00		51	41	46	69	0	00	30.06	30.25												
22	BKN	150			10.00		48	43	46	83	0	00	29.83	30.03	22	CLR	NC			10.00		46	40	43	80	0	00	30.09	30.29												
<b>SUNRISE: 0649</b>							<b>NOV 15</b>							<b>SUNSET: 1659</b>							<b>SUNRISE: 0655</b>							<b>NOV 21</b>							<b>SUNSET: 1655</b>						
01	OVC	150			10.00		47	44	46	89	5	16	29.81	30.00	01	CLR	NC			9.00		41	38	40	89	6	02	30.13	30.32												
04	SCT	150			10.00		44	42	43	93	3	14	29.79	29.98	04	CLR	NC			10.00		45	40	43	83	5	05	30.16	30.36												
07	BKN	250			10.00		39	38	39	96	0	00	29.80	30.00	07	BKN	250			7.00		40	38	39	93	3	04	30.22	30.42												
10	BKN	250			10.00		53	39	46	59	0	00	29.83	30.03	10	SCT	250			9.00		54	42	48	64	5	06	30.26	30.45												
13	OVC	250			10.00		61	36	49	39	0	00	29.80	30.00	13	SCT	250			10.00		61	45	53	56	0	00	30.21	30.40												
16	OVC	075			10.00		58	47	52	67	0	00	29.79	29.98	16	SCT	250			10.00		62	46	54	56	0	00	30.18	30.37												
19	OVC	075			6.00	-RA	56	47	51	72	5	35	29.82	30.02	19	FEW	250			9.00		51	48	49	90	7	15	30.20	30.40												
22	OVC	140			10.00		51	49	50	93	0	00	29.84	30.03	22	SCT	250			5.00	BR	48	46	47	93	3	15	30.19	30.39												
<b>SUNRISE: 0650</b>							<b>NOV 16</b>							<b>SUNSET: 1658</b>							<b>SUNRISE: 0656</b>							<b>NOV 22</b>							<b>SUNSET: 1655</b>						
01	OVC	130			10.00		52	48	50	86	0	00	29.80	29.99	01	VV	001			0.12	FG	49	48	48	96	0	00	30.18	30.37												
04	OVC	110			6.00	BR	51	49	50	93	0	00	29.80	29.99	04	VV	001			0.12	FG	46	46	46	100	0	00	30.17	30.37												
07	OVC	120			4.00	BR	51	49	50	93	3	07	29.78	29.97	07	VV	001			0.12	FG	42	42	42	100	0	00	30.20	30.40												
10	OVC	250			10.00		57	52	54	83	8	12	29.76	29.95	10	BKN	250			2.00	BR	50	49	49	96	7	21	30.19	30.38												
13	OVC	150			10.00		67	55	60	66	11	16	29.64	29.83	13	SCT	250			10.00		68	49	58	51	9	21	30.09	30.28												
16	OVC	110			10.00		63	60	61	90	10	14	29.55	29.74	16	BKN	250			10.00		69	46	57	44	13	22	30.04	30.23												
19	OVC	150			10.00		63	60	61	90	16	17	29.49	29.68	19	BKN	250			10.00		55	46	50	72	8	20	30.02	30.22												
22	OVC	150			10.00		64	61	62	90	10	18	29.47	29.66	22	FEW	250			10.00		55	48	51	77	7	21	30.01	30.20												
<b>SUNRISE: 0651</b>							<b>NOV 17</b>							<b>SUNSET: 1658</b>							<b>SUNRISE: 0657</b>							<b>NOV 23</b>							<b>SUNSET: 1654</b>						
01	OVC	065			9.00	-RA	62	54	57	75	29	23	29.44	29.62	01	FEW	250			10.00		53	48	50	83	8	21	29.96	30.15												
04	BKN	120			10.00		59	57	58	93	15	25	29.47	29.65	04	BKN	060			10.00		57	50	53	78	13	23	29.93	30.12												
07	CLR	NC			10.00		56	52	54	87	13	25	29.56	29.75	07	FEW	250			10.00		56	52	54	87	11	22	29.88	30.07												
10	FEW	040			10.00		61	40	51	46	20	28	29.68	29.88	10	SCT	150			10.00		67	55	60	66	15	26	29.85	30.04												
13	SCT	060			10.00		64	36	50	36	17	29	29.69	29.89	13	BKN	250			10.00		72	55	62	55	15	26	29.79	29.99												
16	FEW	070			10.00		63	31	48	30	15	31	29.76	29.95	16	BKN	250			10.00		71	53	61	53	10	27	29.79	29.98												
19	CLR	NC			10.00		56	33	46	42	7	30	29.86	30.05	19	OVC	095			10.00		67	54	60	63	8	26	29.79	29.98												
22	CLR	NC			10.00		51	31	42	46	9	34	29.92	30.11	22	FEW	140			10.00		61	48	54	63	7	30	29.84	30.04												
<b>SUNRISE: 0652</b>							<b>NOV 18</b>							<b>SUNSET: 1657</b>							<b>SUNRISE: 0658</b>							<b>NOV 24</b>							<b>SUNSET: 1654</b>						
01	CLR	NC			10.00		44	32	39	63	0	00	29.93	30.13	01	BKN	140			10.00		56	41	49	57	7	33	29.90	30.10												
04	CLR	NC			10.00		41	33	38	73	0	00	29.95	30.14	04	CLR	NC			10.00		46	26	38	46	8	03	29.95	30.14												
07	FEW	250			10.00		41	33	38	73	0	00	29.99	30.19	07	CLR	NC			10.00		42	24	35	49	8	01	30.03	30.22												
10	BKN	250			10.00		54	34	45	47	3	36	30.02	30.21	10	FEW	250			10.00		48	24	39	39	17	01	30.10	30.29												
13	BKN	250			10.00		57	33	46	40	5	VR	29.96	30.15	13	FEW	250			10.00		52	26	41	37	9	02	30.07	30.26												
16	BKN	250			10.00		57	33	46	40	7	25	29.94	30.13	16	BKN	250			10.00		50	25	40	38	7	05	30.08	30.27												
19	SCT	250			10.00		50	35	43	57	3	29	29.96	30.15	19	OVC	250			10.00		44	26	37	49	6	06	30.08	30.28												
22	BKN	070			10.00		48	37	43	66	6	35	30.02	30.21	22	OVC	250			10.00		43	27	37	53	0	00	30.07	30.27												

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA NOVEMBER 2010

# KRIC

# WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)			
			Observation Time (LST)	Eff Cld Amt Oktas		DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL	
<b>SUNRISE: 0659</b>						<b>NOV 25</b>							<b>SUNSET: 1653</b>	
01	OVC	095				44	29	38	56	0	00	30.07	30.27	
04	OVC	120				42	31	37	65	0	00	30.03	30.22	
07	BKN	250				40	32	37	73	0	00	30.02	30.22	
10	OVC	100				48	36	43	63	9	20	30.01	30.20	
13	OVC	036				54	38	46	55	7	19	29.90	30.09	
16	OVC	035				56	39	48	53	7	18	29.83	30.02	
19	OVC	020				54	43	49	67	3	18	29.77	29.97	
22	OVC	012				55	50	52	83	7	22	29.68	29.88	
<b>SUNRISE: 0700</b>						<b>NOV 26</b>							<b>SUNSET: 1653</b>	
01	OVC	006			6.00 BR	57	55	56	93	7	20	29.60	29.79	
04	OVC	100			10.00	64	58	60	81	17	23	29.52	29.71	
07	OVC	080			10.00	60	58	59	93	11	26	29.54	29.73	
10	OVC	085			10.00 -RA	60	56	58	87	11	25	29.56	29.75	
13	OVC	150			10.00	61	50	55	67	10	28	29.52	29.70	
16	BKN	150			10.00	61	42	51	50	14	30	29.52	29.71	
19	OVC	150			10.00	54	31	44	42	10	30	29.58	29.77	
22	OVC	180			10.00	50	27	40	41	6	28	29.59	29.79	
<b>SUNRISE: 0701</b>						<b>NOV 27</b>							<b>SUNSET: 1653</b>	
01	OVC	180			10.00	46	22	37	39	8	31	29.60	29.79	
04	CLR	NC			10.00	40	16	32	38	11	32	29.64	29.84	
07	CLR	NC			10.00	37	17	30	44	5	28	29.72	29.91	
10	CLR	NC			10.00	45	20	36	37	9	27	29.76	29.95	
13	FEW	060			10.00	49	21	38	33	10	33	29.75	29.95	
16	FEW	070			10.00	51	20	39	29	11	29	29.80	29.99	
19	CLR	NC			10.00	43	21	35	42	10	01	29.90	30.09	
22	CLR	NC			10.00	35	22	30	59	6	01	29.99	30.19	
<b>SUNRISE: 0702</b>						<b>NOV 28</b>							<b>SUNSET: 1652</b>	
01	CLR	NC			10.00	31	22	28	69	0	00	30.06	30.25	
04	CLR	NC			10.00	31	22	28	69	6	01	30.10	30.30	
07	CLR	NC			10.00	29	22	27	75	0	00	30.16	30.36	
10	FEW	250			10.00	43	23	35	45	13	01	30.22	30.42	
13	CLR	NC			10.00	48	23	38	37	0	00	30.19	30.39	
16	CLR	NC			10.00	49	22	39	35	0	00	30.20	30.39	
19	CLR	NC			10.00	37	26	33	65	0	00	30.23	30.43	
22	CLR	NC			10.00	35	27	32	73	0	00	30.27	30.46	
<b>SUNRISE: 0703</b>						<b>NOV 29</b>							<b>SUNSET: 1652</b>	
01	CLR	NC			10.00	29	26	28	89	0	00	30.27	30.47	
04	CLR	NC			10.00	28	26	27	92	0	00	30.29	30.49	
07	CLR	NC			9.00	27	25	26	92	0	00	30.31	30.51	
10	FEW	250			10.00	45	34	40	65	6	09	30.35	30.54	
13	SCT	250			10.00	52	34	44	50	3	VR	30.29	30.49	
16	BKN	250			10.00	52	34	44	50	3	18	30.26	30.45	
19	BKN	150			10.00	48	39	44	71	7	14	30.23	30.43	
22	OVC	050			10.00	47	42	45	83	6	11	30.21	30.41	
<b>SUNRISE: 0704</b>						<b>NOV 30</b>							<b>SUNSET: 1652</b>	
01	BKN	060			10.00	48	44	46	86	0	00	30.18	30.37	
04	OVC	200			10.00	48	46	47	93	0	00	30.12	30.31	
07	BKN	250			10.00	52	50	51	93	8	15	30.09	30.28	
10	OVC	250			10.00	60	53	56	78	16	17	30.06	30.25	
13	OVC	250			10.00	64	54	58	70	11	16	29.97	30.16	
16	OVC	095			10.00	67	56	61	68	14	17	29.89	30.08	
19	OVC	085			10.00	65	57	60	75	16	17	29.86	30.05	
22	OVC	150			10.00	65	58	61	78	14	18	29.78	29.97	

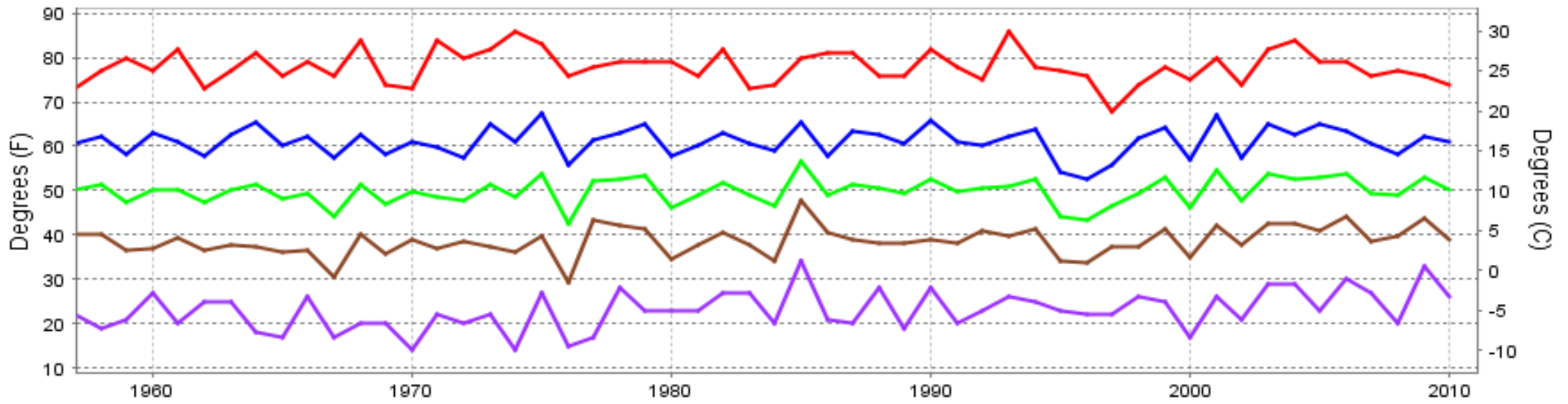
HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)		
			Observation Time (LST)	Eff Cld Amt Oktas		DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL

**3-HOURLY OBSERVATION NOTES**  
Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, W = Vertical Visibility = 8/8  
Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.  
& = Original observation contained additional weather elements.  
See page 3 for additional notes.

## SUMMARY BY HOUR

HOUR (LST)	AVERAGES								RESULTANT WIND (MPH)			
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		WIND SPEED (MPH)	DIRECTION		
							STATION	SEA LEVEL				
01			45	37	42	77	29.93	30.13	9.40	5	2	30
02			44	38	41	79	29.93	30.13	9.32	5	1	33
03			44	37	41	80	29.93	30.13	9.32	5	1	31
04			43	37	40	81	29.93	30.13	9.27	5	2	30
05			42	37	40	81	29.94	30.14	9.25	4	2	31
06			42	37	40	83	29.95	30.14	8.95	5	2	30
07			42	36	40	82	29.96	30.15	9.06	5	1	32
08			45	37	42	77	29.97	30.17	8.98	6	1	31
09			49	38	44	67	29.98	30.17	9.17	8	1	34
10			53	37	46	58	29.98	30.17	9.45	10	1	33
11			55	37	47	52	29.97	30.16	9.60	9	1	31
12			58	36	48	47	29.95	30.14	9.90	8	2	29
13			59	36	48	45	29.92	30.12	9.83	8	3	29
14			60	36	49	43	29.91	30.10	10.00	8	3	28
15			60	36	49	44	29.90	30.10	9.90	9	2	29
16			59	36	48	46	29.90	30.09	9.90	8	2	30
17			56	37	47	52	29.91	30.10	10.00	6	1	33
18			52	38	46	60	29.92	30.11	10.00	5	1	03
19			50	39	45	66	29.92	30.12	9.83	5	1	04
20			49	39	44	70	29.93	30.12	9.93	5	1	02
21			48	39	44	72	29.93	30.13	9.90	4	1	02
22			48	39	44	73	29.94	30.13	9.83	4	1	33
23			47	39	43	75	29.93	30.12	9.58	5	1	03
24			46	39	43	77	29.93	30.12	9.48	5	1	31

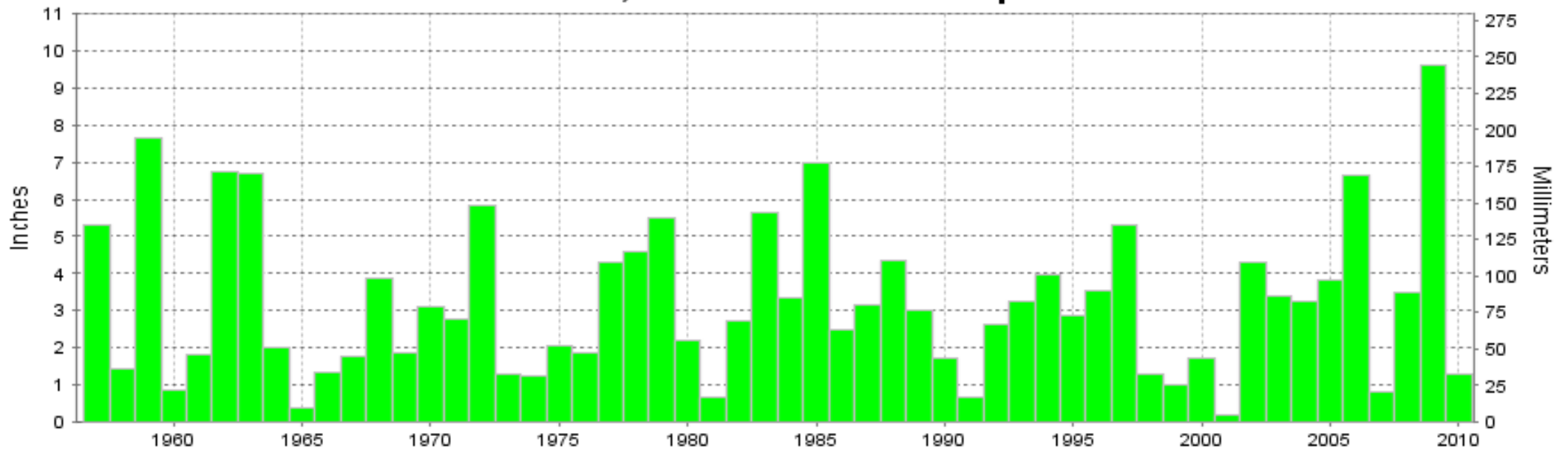
## RICHMOND, VA NOVEMBER Temperatures



— Extreme Max   
 — Mean Max   
 — Mean   
 — Mean Min   
 — Extreme Min

**Long-Term (1957-2010) Mean: 49.9**  
**1971-2000 Normal: 49.0**

## RICHMOND, VA NOVEMBER Precipitation



Long-Term (1957-2010) Mean Monthly Total: 3.21

1971-2000 Normal: 3.06



NOVEMBER 2010  
RICHMOND, VA

## LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center

*I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA-National Weather Service / Department Of Transportation-Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.*

**DIRECTOR**

NCDC now offers an annual online subscription for the **Edited Local Climatological Data Publication**. When you purchase this subscription service, you will have **immediate online access** to all previous publications back to July 1996 and all publications thereafter until the expiration of the subscription. Your subscription is valid for one year after purchase. **The total cost for online delivery (including back issues) is significantly less than the cost for offline delivery.**

To order this and other subscriptions online with your credit card, go to: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov) and choose subscriptions.

We welcome your questions or comments, please contact us at:

Toll Free Number (866) 742-3322 (voice)

Fax Number : (304) 726-4409

TDD : (828) 271-4010

or Email : [ncdc.info@noaa.gov](mailto:ncdc.info@noaa.gov)

Local Climatological Data is available at [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

NCDC Subscription Services Center  
310 State Route 956 Building 300  
Rocket Center, WV 26726  
OFFICIAL BUSINESS, PENALTY FOR PRIVATE USE \$300

FIRST CLASS  
POSTAGE AND FEES PAID  
NOAA  
PERMIT G-19

For address correction, please return a photocopy of this page to Subscription Services indicating changes